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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/580,066	02/22/2007	Roland Barten	23231-0011US1	9542
26191 7590 12/30/2009 FISH & RICHARDSON P.C. PO BOX 1022 MINNEAPOLIS, MN 55440-1022				
EXAMINER				
DO, PENSEE T				
ART UNIT		PAPER NUMBER		
1641				
NOTIFICATION DATE		DELIVERY MODE		
12/30/2009		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PATDOCTC@fr.com

# Office Action Summary

**Application No.**

10/580,066

**Applicant(s)**

BARTEN ET AL.

**Examiner**

Pensee T. Do

**Art Unit**

1641

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 July 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 31-67 is/are pending in the application.
- 4a) Of the above claim(s) 43-67 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 31-42 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 31-67 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/22)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date 5/31/07

## **DETAILED ACTION**

### ***Priority***

This application 10580066, PG pub. No. 20070218566 filed 02/22/2007 is a national stage entry of PCT/EP04/12988 , International Filing Date: 11/16/2004 and claims foreign priority to 10354351.1 , filed 11/20/2003.

### ***Election/Restrictions***

Applicant's election with traverse of group I, claims 31-42 in the reply filed on July 13, 2009 is acknowledged. The traversal is on the ground(s) that the same technical feature that the magnetic field in the portion of the first line have a greater average field strength than the first magnetic field in the container is not taught by Miltenyi. This is not found persuasive because Moubayed et al (US 5,536,475) teaches such feature and Moubayed is discussed below.

The requirement is still deemed proper and is therefore made FINAL.

Claims 1-30 are cancelled.

Claims 31-42 are being examined.

Claims 43-67 are withdrawn from further consideration.

### ***Information Disclosure Statement***

The IDS submitted on May 31, 2007 has been acknowledged and considered.

***Claimed Invention***

31. (New) A method for improved purification of a first substance bound to paramagnetic microparticles, wherein the microparticles are suspended in a first liquid, the method comprising the following steps:

- a) exposing the microparticles to a first magnetic field in a first container to thereby capture the microparticles and prevent the microparticles from being washed away with the first liquid, wherein the first container is in fluid communication with at least a first line, and
- b) passing at least part of the first liquid in a first direction through a portion of the first line and exposing the at least part of the first liquid to a second magnetic field or to the first magnetic field in the portion of the first line such that microparticles not captured in the first container are captured, wherein the cross-sectional area of the portion of the first line is enlarged, wherein the first or second magnetic field in the portion of the first line has a greater average field strength than the first magnetic field in the first container.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 36 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 36 recites "the second and/or further liquid" which lacks antecedent support.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 31, 39 and 42 are rejected under 35 U.S.C. 102(b) as being anticipated by Moubayed et al. (US 5,536,475).

Moubayed teaches a method of improved purification of a first substance bound to paramagnetic microbeads. (see abstract). The method comprises:

a/ exposing the microbeads to a first magnetic field (figure 4, ref. 202) in a first container to thereby capture the microbeads wherein the first container (figure 2, ref. 16) is in fluid communication with a first line (see figure 2, ref. 38-tube).

b/ passing the first liquid in a second magnetic field in the portion of the first line such that the microbeads not captured in the first container are captured, wherein a cross-sectional area of the portion of the first line is enlarged (see figure 2, ref. 68), wherein the second magnetic field has a greater average field strength than the first magnetic field in the first container. (see abstract; col. 14, lines 33-36; col. 9, lines 29-31).

With respect to claim 36, Moubayed teaches a second line (fig. 2, ref. 50) which has an opening in the portion of the first line for passing a second liquid into the first line. Regarding the turbulence, since Moubayed teaches that a second liquid such as buffer is added to the second line as claimed in the present invention, it is inherent that this second liquid can cause a turbulence to resuspend the microparticles into the liquid.

With respect to claims 38 and 39, Moubayed teaches that the first magnetic field acts on a region within the first container and the microparticles are exposed to the first and second magnetic fields by permanent magnets that are brought into contact with the region and with the portion of the first line, respectively. (see abstract; figures 2 and 4).

With respect to claim 42, Moubayed teaches that the paramagnetic beads are coated with cells which are receptors or ligands.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 37, 40 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moubayed in view of Vorpahl (US 5,279,936).

Moubayed has been discussed above.

However, Moubayed fails to teach the size of the magnetic particles to be from 50nm to 50  $\mu$ m or 500 nm to 50  $\mu$ m. Moubayed also fails to teach repeating steps a and b with a second liquid in place of a first liquid.

Vorpahl teaches magnetic separation of magnetic paramagnetic particles with a wide range of size, particularly magnetic particles with intermediate size 100 to 1000 nm (100 nm to 1  $\mu$ m) which falls within the claimed range (see col. 13, lines 49-55) because magnetic particles of this size range can be readily resuspended and require lower surface charge density to prevent spontaneous aggregation than do smaller particles.

Thus, it would have been obvious to one of ordinary skills in the art to use such size range of magnetic particles as taught by Vorpahl in the method of Moubayed because particles of this size range can be readily resuspended.

With respect to claim 37, since the general method steps are taught by Moubayed using a first liquid, it would have been obvious to one of ordinary skills in the art to further separate another liquid other than the first liquid using the same steps of the method taught by Moubayed so that more liquid samples can be separated.

### ***Remarks***

Claims 32-35 are free of the prior arts.

The prior arts fail to teach discontinuing the first or second magnetic field in the portion of the first line, and passing the second or further liquid through the portion of the first line in a second direction opposite to that of the first liquid such that at least

some of the particles captured in the portion of the line are combined with the microparticles captured in the first container.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pensee T. Do whose telephone number is 571-272-0819. The examiner can normally be reached on Monday-Friday, 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Shibuya can be reached on 571-272-0806. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Pensee T. Do/  
Examiner, Art Unit 1641

/Mark L. Shibuya/  
Supervisory Patent Examiner, Art Unit 1641